AMENDMENTS TO THE CLAIMS

Amendments to the claims set forth herein include markings to show the changes by way of the present amendment, deletions being in strikeout (*e.g.*, ~~strikeout~~) and additions being underlined (*e.g.*, underlined).

1. (**Currently Amended**) An intravascular extracardiac pumping system for increasing perfusion of tissue of a patient through a renal artery, the system comprising:

a pump configured to pump blood through the patient at subcardiac volumetric rates, said pump having an average flow rate that, during normal operation thereof, is substantially below that of the patient's heart when healthy, the pump configured to be positioned **and operated** within the vasculature of a patient; and

a pump housing having:

an inflow portion defining an axis, the inflow portion fluidly coupled to the pump to direct blood to the pump, the inflow portion configured to be positioned within the vasculature of the patient; and

an outflow portion extending generally laterally from the axis of the inflow portion, the outflow portion fluidly coupled to the pump to direct blood away from the pump, the outflow portion configured to be at least partially positioned **downstream of the inlet and** within the renal artery of the patient;

a positioning member having a distal end, a proximal end, and a body extending therebetween, the distal end coupled with the pump to generally maintain the position of the pump relative to a point of access to the vasculature **during operation of the pump**, the body having a length such that the proximal end is located outside the vasculature in use;

whereby the pump, the positioning member, and the inflow and outflow portions are configured so as to be inserted subcutaneously into the vasculature in a minimally-invasive procedure.

2. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the inflow portion is configured to extend to a location midstream the renal artery and the heart of the patient when applied to the patient.

3. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the inflow portion is configured to extend to a vascular location proximate the aortic arch of the patient when applied to the patient.

4. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 1, wherein the inflow portion comprises an inlet end configured to extend to a location midstream the renal artery and a femoral artery when applied to the patient.

5. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 1, wherein the inflow portion comprises an inlet end configured to extend to a vascular location within an iliac artery when applied to the patient.

6. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the pump is configured to be positioned at a location midstream the heart of the patient and the renal artery.

7. (**Original**) The intravascular extracardiac pumping system of Claim 6, wherein the pump is configured to direct blood in generally the same direction as the blood flowing adjacent the pump and outside the system.

8. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 1, wherein the pump is configured to be positioned at a location midstream the renal artery and a femoral artery of the patient.

9. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 8, wherein the pump is configured to direct blood generally counter to the direction of the blood flowing adjacent the pump and outside the system.

10. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the outflow portion comprises a first portion and a second portion, the first portion of the outflow portion configured to extend proximally from the pump to a location adjacent the renal artery and the second portion of the outflow portion configured to extend from the first portion of the outflow portion into the renal artery.

11. (**Original**) The intravascular extracardiac pumping system of Claim 10, wherein the first portion of the outflow portion extends generally perpendicularly to the second portion of the outflow portion.

12. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the pump is a rotary pump.

13. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the pump is configured to operate in pulsatile fashion.

14. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the pump comprises an impeller.

15. (**Original**) The intravascular extracardiac pumping system of Claim 14, wherein the impeller is helically shaped.

16. (**Original**) The intravascular extracardiac pumping system of Claim 14, wherein the impeller is driven mechanically by a motor through a drive wire.

17. (**Original**) The intravascular extracardiac pumping system of Claim 14, wherein the impeller is driven electromagnetically by a discrete electromagnetic drive.

18. (**Original**) The intravascular extracardiac pumping system of Claim 17, wherein the electromagnetic drive is sized and configured to be implantable.

19. (**Original**) The intravascular extracardiac pumping system of Claim 18, wherein the electromagnetic drive is sized and configured to be implantable within the patient's vasculature.

20. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the pump comprises a rotatable cable having means for directing blood axially along the cable.

21. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the pump comprises an Archemedes screw.

22. (**Original**) The intravascular extracardiac pumping system of Claim 1, further comprising a pump driving means.

23. (**Original**) The intravascular extracardiac pumping system of Claim 22, wherein the pump driving means is sized and configured to be implantable.

24. (**Original**) The intravascular extracardiac pumping system of Claim 23, wherein the pump driving means is sized and configured to be implantable within the vasculature of a patient.

25. (**Original**) The intravascular extracardiac pumping system of Claim 22, wherein the pump driving means comprises a drive wire.

26. (**Original**) The intravascular extracardiac pumping system of Claim 22, wherein the pump driving means further comprises a motor.

27. (**Original**) The intravascular extracardiac pumping system of Claim 22, wherein the pump driving means comprises an electromagnetic drive.

28. (**Original**) The intravascular extracardiac pumping system of Claim 1, wherein the outflow portion comprises a first outflow portion and further comprising a second outflow portion, the first outflow portion being configured to be positioned within the renal artery and the second outflow portion being configured to be positioned within an artery of the patient.

29. (**Original**) The intravascular extracardiac pumping system of Claim 28, wherein the second outflow portion is configured to be positioned within an iliac artery of the patient.

30. (**Original**) The intravascular extracardiac pumping system of Claim 28, wherein the second outflow portion is configured to be positioned within a branch artery of the patient.

31. (**Original**) The intravascular extracardiac pumping system of Claim 28, wherein the second outflow portion is configured to be positioned within the renal artery of the patient.

32. (**Original**) The intravascular extracardiac pumping system of Claim 28, wherein the first outflow portion is configured to be positioned in a first renal artery and the second outflow portion is configured to be positioned in a second renal artery.

33. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 28, wherein the first outflow portion comprises a first portion and a second portion, the first portion of the first outflow portion configured to extend between the pump and a vascular location adjacent the renal artery and the second portion of the first outflow portion configured to extend from the first portion of the first outflow portion into the renal artery.

34. (**Original**) The intravascular extracardiac pumping system of Claim 33, wherein the first portion of the first outflow portion extends generally perpendicularly to the second portion of the first outflow portion.

35. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 33, wherein the second outflow portion comprises a first portion and a second portion, the first portion of the second outflow portion configured to extend from the pump to a vascular location adjacent the artery and the second portion of the second outflow portion configured to extend from the first portion of the second outflow portion into the artery.

36. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 35, wherein the renal artery comprises a first renal artery and the artery comprises a branch artery.

37. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 35, wherein the renal artery comprises first renal artery and the artery comprises a second renal artery.

38. (**Withdrawn**) The intravascular extracardiac pumping system of Claim 35, wherein the first portion of the second outflow portion extends generally perpendicularly to the second portion of the second outflow portion.

39. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 1, wherein the outflow portion comprises a first portion configured to extend from the pump to a

first location adjacent the renal artery, a second portion configured to extend from the first portion into the renal artery, and a third portion configured to extend from the first portion into an artery.

40. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 39, wherein the third portion is configured to extend into an iliac artery.

41. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 39, wherein the third portion is configured to extend into a branch artery.

42. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 39, wherein the third portion is configured to extend into the renal artery.

43. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 39, wherein the first location is adjacent a first renal artery, the renal artery comprises a first renal artery, and the third portion is configured to extend into a second renal artery.

44.– 78. (**Canceled**)

79. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 1, wherein the positioning member has a low-profile structure.

80. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 1, wherein the positioning member has sufficient axial stiffness to advance the pump and the pump housing through skin of the patient at a percutaneous insertion site.

81. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 1, wherein the positioning member comprises a lumen.

82. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 81, wherein the lumen is configured to house a portion of the pump.

83. (**Previously Presented**) The intravascular extracardiac pumping system of Claim 81, wherein the pump comprises a drive wire that extends through the lumen of the positioning member.

84.–86. **(Canceled)**

87. **(Withdrawn)** An intravascular extracardiac pumping system for increasing perfusion of tissue of a patient through a renal artery, the system comprising:

a pump configured to be positioned within the vasculature of a patient and configured to pump blood through the patient at subcardiac volumetric rates; and

a pump housing having:

an inflow portion defining an inflow axis, the inflow portion fluidly coupled to the pump to direct blood to the pump, the inflow portion configured to be positioned within the vasculature of the patient;

a first outflow portion extending laterally from the inflow axis, the first outflow portion fluidly coupled to the pump to direct blood away from the pump, the first outflow portion configured to be at least partially positioned within a first renal artery of the patient; and

a second outflow portion extending laterally from the inflow axis and generally opposite the first outflow portion, the second outflow portion fluidly coupled to the pump to direct blood away from the pump, the second outflow portion configured to be at least partially positioned within a second renal artery of the patient;

whereby the pump and the inflow and outflow portions are configured so as to be inserted subcutaneously into the vasculature in a minimally-invasive procedure.

88. **(Withdrawn)** The intravascular pumping system of Claim 87, wherein the pump has an average flow rate that, during normal operation thereof, is substantially below that of the patient's heart when healthy.

89. **(New)** The intravascular pumping system of Claim 87, further comprising a sleeve extending over an outer surface of the positioning member to cover the outflow portion during advancement or withdrawal of the pumping system.